



	Fact	Benefit	Application
General Benefit	Oilfree operation	No contamination	Use in clean processes such as high vacuum, CO2 blowers or LNG compression.
	Absolutely contactless levitation	Increased reliability, no maintenance	Use in high-performance machinery where life-cycle cost are a critical factor for success.
	Active vibration control	Transmission of vibrations to the housing and the base can be minimised.	Use in machines, where the process is sensitive to vibrations such as vacuum pumps for electron microscopy.
	High rotational speeds	Smaller machine, higher power density	Install more power on existing frames, in standardized packages or cabinets.
	Setpoint of rotor position can be freely determined	The rotor or tool may <ul style="list-style-type: none"> - Have static position offset for thrust control of a turbine - Follow a dynamic trajectory e.g. for machining 	Build machines that can react to different operating points and thus maximize efficiency of your process.
	Bearing properties such as damping and stiffness can be dynamically set	The rotor may <ul style="list-style-type: none"> - Cross critical eigenfrequencies - Be restabilized of the rotor at imminent delevitation due to instability 	Build supercritical machines that would not be possible with classical rolling element bearings. Improve life of retainer bearings and uptime of your machine.
MECOS' additional Benefits	Position sensors of the bearing systems and the magnetic bearings itself serve as built-in instrumentation	Measurement of <ul style="list-style-type: none"> - Displacement - Unbalance - Process forces 	Enhance your machine <ul style="list-style-type: none"> - Monitor the state of your process - Continuous rotor unbalance monitoring - Optimize the performance of your machine by minimizing or maximizing process forces
	MECOS offers data processing, supervision and servicing tools and an embedded development system	Efficient use of built-in instrumentation for your engineers, your manufacturing and your service personnel.	Use applications such as <ul style="list-style-type: none"> - Ballab for 1- or 2-plane balancing - Testlab for testing after manufacturing - Datalogger and cockpit for monitoring and data acquisition